

ABSTRACT OF THE DISCLOSURE:

A motor driving system for driving an induction motor with a rotation frequency detector. The induction motor drives a load, and the rotation frequency detector detects a rotation frequency of the induction motor. The motor driving system includes a variable speed driving unit and an inverter control unit. The variable speed driving unit is connected to the induction motor and has a capacitance at output. The variable speed driving unit rectifies first 3-phase AC power to produce DC power, and converts the DC power into second 3-phase AC power with a frequency, and drives the induction motor with the second 3-phase AC power. The inverter control unit generates a frequency instruction and a temporary current instruction based on the detected rotation frequency and a rotation frequency instruction at least. Then, the inverter control unit corrects the temporary current instruction based on at least one of first correction depending on a value of the capacitance and second correction depending on a predetermined frequency component of the temporary current instruction to produce a current instruction, and controls the variable speed driving unit based on the frequency instruction and the current instruction.